

2/2 023

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120796

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN 451 PATIENTS WITH A DIVERSE IMMUNOLOGICAL REACTIVITY THE AUTHORS INVESTIGATED THE EFFECTIVENESS OF CONSERVATIVE TREATMENT OF PULPITIS OF 479 TEETH. ALONG WITH CLINICAL INDICES OF THE STATE OF DENTAL PULP THE AUTHORS CONDUCTED AN ALLERGOLOGICAL EXAMINATION OF PATIENTS AND STUDIED THE SENSITIVITY OF THE MICROFLORA OF THE CARIOUS CAVITY TO THE ANTIBIOTICS EMPLOYED. IT WAS ESTABLISHED THAT THE ALLERGIC SENSITIVITY OF THE ORGANISM INFLUENCES THE OUTCOME OF THE TREATMENT TO A GREATER DEGREE THAN THE MICROFLORAL SENSITIVITY OF THE CARIOUS CAVITY TO THE MEDICINAL PREPARATION USED.

FACILITY: KAFEDRA TERAPEVTICHESKOY STOMATOLOGII AND KAFEDRA PATOLOGICHESKOY FIZIOLOGII KAZANSKOGO MEDITSINSKOGO INSTITUTA.

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126017

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. IN 20 RABBITS WHO HAD UNDERGONE IPSILATERAL LIGATION OF SOME BRANCHES OF THE GENERAL CAROTID ARTERIES A CHRONIC HYPERTENSIVE REACTION APPEARED. A REPEATED LIGATION OF SIMILAR ARTERIES ON THE OTHER SIDE AFTER 6-7 MONTHS IN 14 ANIMALS WAS NOT ACCOMPANIED BY AN INCREASE OF ARTERIAL PRESSURE. IN 12 EXPERIMENTS THE COLLATERAL BRAIN CIRCULATION WAS STUDIED BY ANGIOGRAPHY AND A FILLING OF THE CEREBRAL VESSELS BY LATEX. IN 10 ANIMALS THE AUTHORS STUDIED THE INTRAOCULAR PRESSURE AND OPHTHALMOGRAPHY OF THE VESSELS OF THE EYE GROUND. THE ACHIEVED DATA WERE COMPARED WITH THE RESULTS SEEN IN 5 CONTROL ANIMALS AND 5 INTACT ANIMALS. IT WAS ESTABLISHED THAT A RECONSTRUCTION OF COLLATERAL CIRCULATION BEGINS DIRECTLY AFTER LIGATION OF THE CAROTID ARTERIES. AFTER 242-389 DAYS THERE IS A DILATATION OF THE SPINAL AND BASILLAR ARTERY, THE ARTERIES OF THE CIRCLE OF WILLIS, A DILATATION OF THE EXISTING AND A FORMATION OF NEW ANASTOMOSIS, VASCULAR NEOPLASMS IN THE PLACE OF ARTERY LIGATIONS BETWEEN THE INTRA AND EXTRACEREBRAL VESSELS. THE AUTHORS DISCUSS THE ROLE OF COLLATERAL CIRCULATION IN THE COMPENSATION OF BRAIN CIRCULATORY INSUFFICIENCY.

FACILITY: INSTITUT KARDIOLOGII, AMN, MOSKVA.

UNCLASSIFIED

USSR

UDC 547.26'118

OVROUTSKIY, V. M., KUZ'MENKO, I. I., and PROTSENKO, L. D., Kiev Scientific Research Institute of Pharmacology and Toxicology

"Aryl Esters of N-[4-(1-Phenyl)2,3-dimethyl-5-oxopyrazolyl]-N',N',-di(2-chloroethyl)-diamidophosphoric Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1034-1036

Abstract: Title compounds were obtained by reacting the aryl esters of di-(2-chloroethyl)-amidophosphoric acid chlorides with aminoantipyrine in acetone and in presence of triethylamine. The products originally are viscous liquids which crystallize after one passage through an alumina column. No biological data are reported.

1/1

USSR

UDC: 519.2.54

OVSEPYAN, F. A., LEPSKIY, D. A.

"On an Algorithm of Identification"

Tr. Spets. konstrukt. byuro po avtomatike v neftepererabotke i nefte-  
khimii (Works of the Special Design Office on Automation in Petroleum  
Refining and Petrochemistry), 1971, vyp. 3, pp 141-144 (from RZh-Kiber-  
netika, No 9, Sep 71, Abstract No 9V268)

Translation: Selection of the most informative group of variables plays an important part in problems of identification and control. A group of this type is the set of variables of a preassigned volume on which the multivariate coefficient of correlation between the output variable and the group of input variables reaches a maximum. It is known that the method of sampling by trial and error does not always yield the most informative group of variables. Two numerical examples are presented which illustrate this fact: an example with artificially selected data and the results of processing of actual statistical data on identification of the process of condensation of isobutylene with formaldehyde. The authors conclude that a complete sorting method must be used in constructing models. A. Zaslavskiy.

- 6 -

1/1

UDC 519.281

USSR

RAYBMAN, N. S., SHPUNT, M. I., OVSEPYAN, F. A., DURGARYAN, I. S.

"Information Measure of Determinacy and Its Use in Identification of Objects of Control"

Tr. 1 Vses. simpoziuma po statist. probl. v tekhn. kibernet. Identifik i apparatura dlya statist. issled. (Works of the First All-Union Symposium on Statistical Problems in Technical Cybernetics. Identification and Equipment for Statistical Investigation), Moscow, "Nauka", 1970, pp 126-136 (from RZh-Matematika, No 10, Oct 70, Abstract No 10V109)

Translation: The problem of quantitatively evaluating the degree of isomorphism of the mathematical model of an object-original is discussed. The quantitative estimate of the degree of isomorphism proposed, the information measure of determinacy, is based on the fundamental notions of information theory. Let a random quantity  $X$  "act" on the input of a one-dimensional inertialess object and the random quantity  $Y$  "act" on the output. A certain distribution of the values of  $Y$  corresponds to each fixed  $X$ . In this case it is proposed that the following quantity be used as a relative information measure of determinacy:

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USSR

RAYBMAN, N. S., et al, Tr. 1 Vses. simpoziuma po statist. probl. v tekhn. kibernet. Identifik i apparatura dlya statist. issled., Moscow, "Nauka", 1970, pp 126-136

$$q_X\{Y\} = I_X\{Y\}/H\{Y\}, \quad (1)$$

where  $I_X\{Y\}$  is the quantity of information on  $Y$  contained in the input quantity  $X$  and  $H\{Y\}$  is the unconditional entropy of the quantity  $Y$ . Calculation of the information measure of determinacy by formula (1) involves a large number of calculations in practice. It is shown in the work that under certain constraints on the unconditional and conditional probability density of the quantity  $Y$  it is possible to express the information measure of determinacy in terms of more simple characteristics of the object; in particular, in terms of the measure of determinacy based on dispersion methods for random quantities. Such a measure of determinacy was introduced by N. S. Raybman (Avtomatika i Telemekhanika, 1963, 24, No 9). One can similarly introduce an information measure of determinacy for static multidimensional and dynamic objects. Examples of calculating the measure are given. Yu. Shinakov.

USSR

UDC 627.8(470.67):69.059:550.349

BOSOVSKIY, L. M., OVSEPYAN, G. O., Engineers

"Effect of an Earthquake on the Structure of the Cascade of the Chir-Yurtsk Hydroelectric Power Station"

Moscow, Gidrotekhnicheskoye stroitel'stvo, No. 1, Jan 72, pp 18-20

Abstract: The earthquake occurred 14 May 1970 in Dagestanskaya ASSR and the epicentral zone had an extent of 40-50 km. The intensity of the earthquake was 8 points in the epicentral zone and 7 points in the region of the power station. The earthquake did not disrupt normal operation of the cascade of the power station on the Sulak River. There was slight damage to the crest of the earth dam and restoration did not effect the operation of the cascade. A diversion channel, the penstock and the water distribution channel between the station and the siphon duct through the Sulak River did not receive any noticeable damage from the earthquake. Damage to the earth dam that occurred despite the fact that the strength of the earthquake was not greater than the designed strength of the dam led to the conclusion that standards for designing earth dams for resistance to earthquakes do not fully reflect actual conditions under a dynamic load.

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USSR

UDC 577:1:615.216.5

AMADYAN, M. G., MNDZHOYAN, O. L., and OVSEPYAN, M. V., Institute of Fine Organic Chemistry, Academy of Sciences Armenian SSR

"The Influence of Ditiline, Hexatoline and Subecholine on Cholinesterase Activity in Different Parts of the Rat Brain and Heart"

Yerevan, Biologicheskii Zhurnal Armenii, Vol 23, No 6, Jun 70, pp 105-106

Abstract: In experiments with 130 white rats, the authors introduced the myo-relaxants intraperitoneally in doses evoking curareiform effects: ditiline--2.5 mg/kg, hexatoline--0.5 mg/kg, and subecholine--20 mg/kg. The animals were sacrificed after 5, 15, 30, and 60 minutes. Examination of the heart and brain showed no influence of the above drugs on cholinesterase activity. However, these drugs, given in extremely large doses, show inhibiting effects on cholinesterase in the optic thalamus and in the myocardium of ventricles.

1/1

- 65 -



USSR

UDC 517.5

OVSEPYAN, R. I., Institute of Mathematics and Mechanics, Academy of Sciences  
Armenian SSR

"On the Convergence of Orthogonal Series to  $+\infty$ "

Moscow, Matematicheskiye Zametki, Vol 11, No 5, May 72, pp 499-508

Abstract: Since it is unknown if there exists a trigonometric series which converges to  $+\infty$  on a set of positive measures, P. L. UL'YANOV considered the similar question for the class of series

$$\sum_{n=1}^{\infty} a_n \varphi_n(x),$$

where  $\{\varphi_n\}$  are all possible systems of functions bounded in the aggregate  $(|\varphi_n(x)| \leq M; n = 1, 2, \dots)$  and orthonormal on the interval  $(0,1)$  and

1/2

USSR

OVSEPIAN, R. I., Matematicheskiye Zametki, Vol 11, No 5, May 72, pp 499-508

$\{a_n\}$  are all possible sequences of real numbers. This class of series (1) is designated as A. The present article considers whether a series of class A (where  $\{\varphi_n\}$  is a complete orthonormal system consisting of continuous functions) can equal  $\infty$  everywhere and how quickly the coefficients of such series can tend to zero. The following theorem is proved:

For any sequence of real numbers  $\{a_n\}_1^\infty$ ,  $a_n \downarrow 0$ ,  $\sum_{n=1}^\infty a_n^2 = \infty$  there exists a complete, uniformly bounded system of continuous functions  $\{\varphi_n(x)\}_1^\infty$ , orthonormal in  $L_2(0, 1)$ , with coefficients  $\{b_n\}_1^\infty$  such that  $0 < b_n \leq a_n$  and  $\sum_{n=1}^\infty b_n \cdot \varphi_n(x) = +\infty$  everywhere on  $(0, 1)$ .

2/2

1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SYNTHESIS OF VINYL FORMATE IN A FLUIDIZED CATALYST BED -U-  
AUTHOR--(04)--AKOPYAN, A.YE., BOYADZHIAN, V.K., YERITSYAN, V.K., OVSEPYAN,  
S.S.  
COUNTRY OF INFO--USSR  
SOURCE--ARM. KHIM. ZH. 1970, 23(2), 193-9  
DATE PUBLISHED--70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--VINYL COMPOUND, FORMIC ACID, CARBOXYLIC ACID ESTER, FLUIDIZED  
BED, CATALYTIC ORGANIC SYNTHESIS, ACETYLENE, ACETATE, ALDEHYDE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1999/1862 STEP NO--UR/0316/70/023/002/0193/0199  
CIRC ACCESSION NO--AP0123650  
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0123650

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYNTHESIS OF VINYL FORMATE (I) FROM ACETYLENE AND FORMIC ACID IN THE VAPOR PHASE OVER FLUIDIZED ZN AND CO CATALYSTS WAS EXAMD. IN A CONTINUOUS REACTOR (1969). THE ORDER OF CATALYST ACTIVITY WAS: CO FORMATE IS LESS THAN ZN FORMATE IS LESS THAN MIXT. 1:1 OF BOTH (IN ALL CASES ON ACTIVATED C SUPPORT). THE OPTIMUM TEMP. FOR MAX. YIELD OF I AND MIN. BY PRODUCTS (ACETALDEHYDE, VINYL ACETATE, CROTONALDEHYDE) WAS 180DEGREES, AND THE OPTIMUM RATIO II-III WAS 3.5:1. FACILITY: EREVAN. OTD. NAUCH. ISSLED. INST. POLIM. PLASTMASS, EREVAN, USSR.

UNCLASSIFIED

OVSEPYAN, Vagarshak

Hydraulics

USDA

POKROVICH, V. [Affiliation not given]

"A Scientist, Engineer, and Educator" (Professor V. Pokrovich, Yerevan, Armenia, 17 Nov 72, p. 1)

Translation: Professor Vagarshak Ovsepyan, an outstanding specialist in the field of hydraulics, is sixty years of age. He is the author of a number of valuable monographs devoted to the theory and construction of high-pressure hydraulic rams, unsteady motion of liquid in pipes, and other problems. The practical importance of these investigations, carried out in the two hydraulic laboratories of the Yerevan Polytechnical Institute, whose organizer, conductor, and very builder had been Ovsepyan himself, is unquestionable. Under conditions of high-mountain, rugged relief and complex climate of Armenia the importance of powerful hydraulic rams especially in pumping over water from great depths is especially significant. The most competent scientist, Vagarshak Kevichovich Ovsepyan, the scientific director of laboratory studies on the construction of the Shumskaya hydroelectric power plant and of the Khachnatsavats pumping station. His advice is sought by designers of the Araks project [Armenian Hydraulic Construction Project] and Yerevan (Yerevan Project), builders of the Garni-Yerevan water line and the Vorotnitsky Cascade, and engineers from plants and scientific research institutes. He always finds time to share his experience and profound knowledge. Professor Ovsepyan educates with the greatest care the students of the Yerevan Polytechnical Institute and K. Marx. Being himself an alumnus of this institute, V. Ovsepyan from 1946 is teaching in a higher educational institution where he was Assistant in the Department of Hydraulics and the Head of the Hydrotechnical Faculty, and from 1955 on, he is the Head of the Department of Hydraulics. Under his leadership this Department is supplemented by scientific cadres: doctors and candidates of sciences, many of whom are his former pupils.

V. Ovspeyan is the author of the textbook "Hydraulics," which is used by students of technical higher educational institutions of the Republic. His exactingness, multiplied by his vast knowledge and experience, has helped to produce hundreds of highly qualified engineers.

The Professor has close connections with the social life of the Institute. He is an active member of several scientific Councils and the Chairman of the Antimicrobial Scientific Council of the Academy of Sciences Armenian SSR.

The scientist, engineer, and educationalist, in celebrating his 60th anniversary in the heyday of creative forces and with great scientific and educational plans for the future. His numerous colleagues and disciples wish the Republic the realization of his plans and sturdy health.

USSR

UDC 669.018.298-426

LESHCHINER, A. M., ZHUCHIN, V. N., DZUGUTOV, M. YA., KORNEEV, N. I., and  
OVSEPYAN, V. G., Elektrostal' Plant and the All-Union Scientific Research  
Institute of Aviation Materials

"Crack Removal in the Production of Wire Made From Precipitation Hardened Alloys"

Moscow, Stal', No 7, Jul 73, pp 652-654

Abstract: The processes of formation and nature of cracks were studied in a nickel-base alloy EP578 with the following chemical composition (in %): 18-20 Cr, 9-10.5 W, 2.75-3.25 Ti, 1.3-1.8 Al, 5.5-6.5 Co and 0.05 C (max). Deep longitudinal cracks (up to 2 mm in 5-mm diameter wire) along the entire wire length are sometimes formed. Investigation showed that this was linked with the occurrence of structural transformations during heating and, in particular, with precipitation of the gamma-prime type strengthening phase Ni<sub>3</sub>(Ti,Al). Crack formation was also possible in the presence of surface defects and high residual tensile stresses. The first factor can be eliminated by rapid heating (at a rate not less than 250-300 deg/sec for suppression of aging), and the second factor -- by means of burnishing cold-drawn wire prior to its recrystallization, owing to which residual surface stresses become compressive stresses. Experiments also showed that cracks are formed in less-  
1/2

USSR

LESHCHINER, A. M., et al., Stal', No 7, Jul 73, pp 652-654

alloyed materials such as nickel-base alloys EP567 and NIMO-25 (66-69% Ni) with the following chemical composition:

	Cr	W	Mo	C	Si	Mn	Fe
EP567	14.5-16.5	3.0-4.5	15.0-17.0	0.03*	0.15*	1.0*	1.5*
NIMO-25	---	---	25.0-28.0	0.035*	0.25*	0.5*	balance

\*-maximum

Precipitation of dispersed phases does not occur during heating of these alloys but proceeds by an ordering process. Thus, one of the necessary conditions of crack formation is the presence of structural transformations during heating. Four figures, four bibliographic references.



Radiation Chemistry

USSR

UDC 543.062 + 546.791

TARAYAN, V. M., ~~OVSEPYAN, Ye. N.~~, and PETROSYAN, A. A., Yerevan' State University, Institute of General and Inorganic Chemistry Acad. Sci. Armenian SSR (Yerevan')

"Extraction of Uranium (VI) with Basic Dye Acridine Orange NO"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 11, 1971, pp 966-970

Abstract: Maximum extraction of uranium (VI) into the organic phase was achieved in the presence of  $4.0-8.5 \cdot 10^{-5}M$  concentration of dye and  $7.0-7.7 \cdot 10^{-3}M$  concentration of sodium benzoate at pH 4.3-5.6. Excess benzoate produces a sharp rise in the optical density of the blank. Benzene is the preferred extractant for the ternary complex. The maximum light absorption of the benzene extract (505 nm) remained constant for 3-3.5 hours. The order of addition of reagents did not influence the optical density of extract. A direct proportionality between the uranium (VI) concentration in aqueous phase and the optical density of the extract remained constant within  $0.1-5.5 \mu g UO_2^{2+}/ml$ . The average molar extinction coefficient is  $5.4 \cdot 10^4$ . The dye cation and the uranium (VI) benzoate anion react in a

1:1 molar ratio. The specificity factor  $K = \frac{[ion]}{[UO_2^{2+}]}$  where [ion] is the  $1/2$

BSSR

TARAYAN, V. M., et al., Armyanskiy Khimicheskiy Zhurnal, Vol 24, No 11, 1971, pp 966-970

concentration of impurity ion low enough not to influence the extraction selectivity of uranium (VI) by dye was calculated for 12 cations and 3 anions. Five figures and one table.

2/2

- 81 -

USSR

UDC 543.062+546.791+547.86

TARAYAN, V. M., QVSEPYAN, Ye. N., and PETROSYAN, A. A., Yerevan State University

"Extraction of the Benzoic Acid — Uranium (VI) Anion Complex With Some Thiazine Dyes"

Yerevan, Armyanskiy Khimicheskiy Zhurnal, Vol 23, No 10, 1970, pp 957-958

Abstract: A study was carried out on the possibilities of utilizing thionine type dyes for extraction-photometric determination of uranyl ion. Methylene green (MG), azure I (AzI) and toluidine blue (TB) were examined using sodium benzoate as the reactive anion in forming the acido complex of uranium (VI). Maximum optical density of a constant level was found at pH 3.9-5.0 for MG, 4.5-5.2 for AzI, and 4.4-5.2 for TB. To achieve a complete extraction of the complex a  $2.8 \cdot 10^{-5}$  to  $6.9 \cdot 10^{-5}$  M concentration of MG is needed, the values for AzI and TB being  $3.2 \cdot 10^{-5}$ - $8.0 \cdot 10^{-5}$  and  $3.3 \cdot 10^{-5}$ - $6.6 \cdot 10^{-5}$  respectively. The best solvent system consisted of a mixture of dichloroethane-trichloroethylene, the optical density being constant in it for at least 2 hrs. Average apparent molar extinction coefficients for the extracts of uranium (VI) acido complexes were  $7.3 \cdot 10^4$  (MG),  $7.2 \cdot 10^4$  (AzI) and  $8.4 \cdot 10^4$  (TB).

1/1

USSR

UDC:539.4

KONOPLenko, V. P., ARTYUKHINA, L. L., OVSEPYAN, Ye. S., VINOGRADOVA, V. S.,  
Moscow

"The Level of Equicohesive Temperature of VM-1A Molybdenum Alloy Upon  
Short-Term Testing in a Vacuum"

Kiev, Problemy Prochnosti, No 10, Oct 73, pp 51-55

Abstract: It is established that the equicohesive temperature of VM-1A alloy in a vacuum of  $5 \cdot 10^{-4}$  or  $5 \cdot 10^{-5}$  mm Hg is approximately  $1250^{\circ}\text{C}$  and increases both as a result of preliminary triple washing of the chamber with argon (to about  $1450^{\circ}\text{C}$ ) and as a result of protection of the surface of specimens with a heat-resistant coating (to over  $1500^{\circ}\text{C}$ ). The level of the equicohesive temperature of the alloy results from the rate of development of surface microscopic cracks which develop at points of separation of hard and brittle oxygen-containing phases on grain-boundary surfaces, which are enriched with residual oxygen during high-temperature testing.

1/1

- 72 -

USSR

UDC:539.5

NOVIKOV, N. V., VOYTENKO, A. F., VOYNITSKIY, A. G., OVSEPYAN, Ye. S.,  
NEKRASOVA, Z. P., Kiev, Moscow

"Influence of Technological Factors on Mechanical Properties of Molybdenum  
Alloys at Low Temperatures"

Kiev, Problemy Prochnosti, No. 12, Dec 70, pp. 69-71

Abstract: The elasticity, plasticity and strength characteristics of  
cast molybdenum alloy (0.1% Zr, 0.15% Ti, less than 0.6% W) are presented  
in the temperature interval between -196 and +20°C. A change is noted in  
the intensity of growth of strength and plasticity of the alloy with  
decreasing temperature depending on its structural state. The determining  
influence of peening on the mechanical properties of this alloy at low  
temperatures is demonstrated.

1/1

USSR

UDJ 621.385.6

OVSEPYAN, ZH. M.

"On A Generator Of Microwave Oscillations In A Slow Cyclotron Or Synchronous Wave, With Employment Of A Coupling Unit In The Form Of A Double Spiral"

Vestn. Kiyev. politekhn. in-ta. Ser. radioelektron. (Bulletin Of The Kiev Poly-Technical Institute. Radio Electronics Series), 1970, No 7, pp 48-49 (from RZh--Elektronika i yeye primeneniye, No 12, December 1970, Abstract No 12A183)

Translation: A theoretical demonstration is conducted by the method of bound waves of the possibility of realizing the interaction of slow cyclotron and synchronous waves of an electron beam with a resonant coupling unit in the form of a double spiral. The possibility is shown of the creation of generators with slow transverse waves. Data from the experiment are presented. 4 ref. Summary.

1/1

- 26 -

USSR

UDC: 519.281

OVSETSYAN, V. S.

"Simplex Method With Irregular Simplexes, and its Use for Digital Optimization and Planning of Experiments"

Tr. NII avtomatiz. proizv. protsessov khim. prom-sti i tsvetn. metallurgii (Works of the Scientific Research Institute of Automation of Production Processes in the Chemical Industry and Ferrous Metallurgy), 1970, vyp. 43, pp 27-38 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V360)

[No abstract]

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1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--MECHANICAL PROPERTIES OF NUCLEUS PULPOSUS OF THE LUMBAR  
INVERTEBRAL DISCS BASED ON DATA OF BARODISCOMETRY IN EXPERIMENT -U-  
AUTHOR-(04)-TSIVYAN, YA.L., RAYKHINSHTEYN, V.KH., MOSOLOVA, M.D.,  
OVSEYCHIK, YA.G.  
COUNTRY OF INFO--USSR  
SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 6, PP 55-60  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL  
SCIENCES  
TOPIC TAGS--BONE DISEASE, ORTHOPEDIC SURGERY, MEDICAL TRAINING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0915

STEP NO--UR/9115/70/003/006/0055/0060

CIRC ACCESSION NO--AP0129980

UNCLASSIFIED



2/2 022

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0129980

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THIS PAPER THE RESPONSE OF THE INTERVERTEBRAL LUMBAR DISCS TO EXPERIMENTAL VERTICAL COMPRESSION IS ELUCIDATED. THE OBJECT OF THE STUDY WAS CADAVERIC MATERIAL. VARIOUSLY TREATED PREPARATIONS OF THE HUMAN LUMBAR SPINE WERE SUBMITTED TO COMPRESSING LOAD IN A SPECIALLY CONSTRUCTED APPARATUS. BARODISCOMETRY, PRESSURE IN NUCLEUS PULPOSUS OF THE DISC UNDER STATIC CONDITIONS WAS CHOSEN AS BASIC TEST. INFORMATION ABOUT THE INTRADISCAL PRESSURE WAS OBTAINED WITH AID OF A SPECIAL DEVICE, NEEDLE PROBE OF ORIGINAL CONSTRUCTION. DISCS OF VARIOUS DEGREE OF DEGENERATION HAVE BEEN INVESTIGATED. ON BASIS OF THE EXPERIMENTS THE AUTHORS PROPOSE A CONCEPTION OF THE AMORTIZATION FUNCTIONS OF LUMBAR INTERVERTEBRAL DISCS.

FACILITY: KLINIKI TRAVMATOLOGII I ORTOPEDII I OTDELA FIZIOLOGII NOVOSIBIRSKOGO INSTITUTA TRAVMATOLOGII I ORTOPEDII.

UNCLASSIFIED

USSR

UDC 613.63:632.95

KAGAN, YU. S., SASINOVICH, L. M. and OVSEYENKO, G. I.; Institute of the Hygiene and Toxicology of Pesticides, Polymers and Plastics

"Use of Correlation Analysis of Toxicity and Cumulation Indices to Establish Hygiene Standards for Pesticides in the Air of Working Areas (with Use of Computers)"

Moscow, Gigiyena Truda i Professional'nyye Zabollevaniya, No 8, 72, pp 21-25

Abstract: Attempts to derive a straightforward computational scheme to predict maximum possible concentrations (MPC) of new chemicals (pesticides, etc.) date back more than a dozen years, but the limited availability of toxicity data has prevented any significant success in this area. Known toxicity-index figures for thirty industrial chemicals were processed using computer techniques. Five regression equations, linking MPC with each toxicity index ( $LD_{50}$ ,  $Lim_{chr}$ ,  $Lim_{ac}$ , etc.), then were set up theoretical (calculated) and empirical MPC values were compared. In more than two-thirds of cases there was complete or approximate coincidence of the two values; in the remainder there was some degree of discrepancy, depending on the particular index used (notably in the case of DDT and PDK-5 preparations). As a whole, the predictions were highly accurate. With judicious application and due allowance for physico-chemical anomalies in some cases, the system can be used to obtain reliable MPC

USSR

KAGAN, YU. S., et al., Gigiyena Truda i Professional'nyye Zabolevaniya, No 8, 72, pp 21-25

values for any new chemical, thus eliminating lengthy and expensive experimental work. Computation is reduced to a minimum, since nomograms are used instead of equations.

2/2

- 71 -



USSR

UDC: 621.391.1

OVSEYEVICH, I. A.

"Optimal Transmission of a Gaussian Message Through a Channel with White, Gaussian Noise with Feedback"

Moscow, Problemy <sup>Peredachi</sup> Informatsii, Vol 6, No 3, 1970, pp 3-14

Abstract: Linear methods of coding and decoding for which the error in reproduction does not exceed  $\epsilon^2$  are indicated for a message forming a gaussian random vector or gaussian random process, such that its entropy per unit time does not exceed the throughput capacity of a channel with white gaussian noise and full feedback.

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- 94 -

USSR

UDC 632.95

OVSISHCHER, M. R., BEZUGLYY, S. F. and ZHESTKOVA, T. Ya.

"Thermomechanical Studies on Pesticides and Wettable Powders Based on Them"

V sb. Khim. sredstva zashchity rast. (Chemical Protection of Plants -- collection of works), No 2, Moscow, 1972, pp 151-158 (from RZh-Khimiya, No 22, 25 Nov 73, Abstract No 22N516 by I. Pil'menshteyn)

Translation: Studies on the thermomechanical properties of pesticides (P) and mixtures thereof with fillers. Introduction of fillers into P elevates the pour point: the higher the absorptivity, the greater the percentage of the filler in a mixture with P. The P are provisionally broken down into 3 groups according to the position of the pour point interval. Each group requires specific fillers and special methods of treatment.

1/1

- 52 -

USSR

UDC 632.95

ANDREYEVA, YE. I., MEL'NIKOV, N. N., PRONCHENKO, T. S., SKALOZUBOVA, A. V.,  
MATVEYEVA, G. N., OVSISHCHER, M. R., BEZUGLYY, S. F., and USMANOV, M. T.

"Phenothiuram Seed Disinfectant"

V sb. Khim. Sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 135-145 (RZh-Khimiya, No 11, Jun 72, Abstract No 11K429)

Translation: The combination disinfectant phenothiuram (40% tetramethylthiuram disulfide, 10% copper trichlorophenoxide, and 20%  $\gamma$ -hexachlorocyclohexane; heptachlor or some other organochlorine insecticide may be substituted for the last component) has been tested and is recommended for treating cotton seeds (10-12 kg/ton) and the seeds of legume grain crops (3-4 kg/ton). Phenothiuram may also be used to treat seed corn, tree crop seeds, and the planting material for flowers, shrubs and trees. Phenothiuram is moderately toxic and is recommended as a substitute for organomercury disinfectants.

1/1

USSR

UDC 632.95

SUPIN, G. S., BEZUGLYY, S. F., MAKAROVA, S. V., OVSISHCHER, M. R., KALASHNIKOVA, V. N., MIKHEYEVA, S. YA., and ZAKS, P. G.

"Mercurimetric Volumetric Method of Determining Phthalophos (With Visual and Amperometric Endpoint)"

V sb. Khim. sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 81-83 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N409)

Translation: A specimen containing phthalophos (I) is hydrolyzed in an alkaline medium, the resultant dimethyl dithiophosphate is volumetrically analyzed with 0.01 N  $\text{Hg}(\text{NO}_3)_2$  in the presence of a 1% alcohol solution of diphenylcarbazone until the pink color becomes lilac blue. Amperometric titration is done with a vibrating platinum electrode or a dropping mercury electrode relative to a saturated  $\text{Hg}_2\text{Cl}_2$  electrode. The sensitivity of amperometric titration is 0.06 mg of I, and that of the visual method is 0.6 mg of I.

1/1

- 47 -



USSR

UDC 632.95

BEZUGLIY, S. F., ~~OVSISHCHER, M. R.~~, and ZHESTKOVA, T. YA.

"A Combination Method of Preparing Wettable Pesticide Powders"

V sb. Khim. sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 297-301 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N415)

Translation: On the basis of analysis of techniques for producing pesticides and wettable powders based on them, it is concluded that it would be feasible to combine a number of stages typical of synthesis of pesticides produced in the form of finely dispersed aqueous suspensions with stages of preparation of the wettable powders based on them. In this connection, the aqueous suspension of the pesticide is cleaned of impurities on filters or centrifuges, put into suspension once more, a surface active agent is added together with auxiliary substances, and also fillers where necessary, and the resultant suspension is then dried in spray driers or in fluidized bed driers. This results in more uniform distribution of the components and in a finely dispersed product which can be pulverized if necessary. Examples are presented of preparation of 80-86% wettable ziram powder, 75% wettable zineb powder and 80% wettable simazine powder.

1/1

USSR

UDC: 681.332.65

LAZER, I. M., ~~OVSISHCHER, P. I.~~ YAMPOL'SKIY, A. B., SHUBAREV, V. A.

"A Reversible Counter With Group Carry"

USSR Author's Certificate No 287121, filed 4 Jul 69, published 21 Jan 71  
(from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 10, Oct  
71, Abstract No 10B236 P)

Translation: A reversible counter with group carry is known which is based on potential OR-NOT (AND-NOT) elements, in which each digital place is built on nine elements, six of which form the counter digit proper, which is comprised of three flip-flops with set inputs, one being a memory flip-flop and two being commutation flip-flops, while three elements per digital place are necessary for constructing the carry circuit. This type of set-up has the following disadvantages: The operating reliability of the counter is poor, since the count digit of the flip-flop has no memory of the preceding state when the next count pulse arrives, and logical shifts occur in the carry circuit. The speed of the counter is reduced because of the presence of two series diodes in the ripple-through carry circuits.

1/2

USSR

LAZER, I. M. et al., Soviet Patent No 287121

The purpose of the proposed invention is to provide a reversible counter circuit on potential logic elements (AND-NOT, OR-NOT) which is free of the disadvantages mentioned above while reducing the expenditure of equipment per digital place in the counter. This purpose is achieved by introducing two diodes into each count digit with the appropriate connections to implement the functions of reversal and storage of the preceding state. The group carry function is performed by logic elements of the count circuit by means of the added diodes. Two illustrations.

2/2

- 76 -

USSR

UDC 621.374.32

LAZER, I. M., OVSISHCHER, P. I., YAMOPOL'SKIY, A. B., SHUBAREV, V. A.

"A Reversible Counter With Group Carry"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287121, class 21, filed 14 Aug 68, published 19 Nov 70, p 64

Translation: This Author's Certificate introduces a reversible counter with group carry based on potential AND-NOT (OR-NOT) logic elements. A digital position in the device contains a counting circuit based on three flip-flops which are separately triggered. One of these is a storage flip-flop and the other two are commutation flip-flops. As a distinguishing feature of the patent, the circuit is simplified, speed is increased and reliability is improved by adding two diodes to each digital position of the counter. The first input of the first diode is connected to the ones state of the first commutation flip-flop, and the analogous input of the second diode is connected to the zeros state of the same flip-flop. The second input of the first diode is connected to the zeros state of the second commutation flip-flop, and the analogous input of the second diode is connected to the ones state of this same flip-flop. The third inputs

1/2

USSR

LAZER, I. M., et al., Otkrytiya, izobreteniyе, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 35, Soviet Patent No 287121, class 21, filed 14 Aug 68, published 19 Nov 70, p 64

of the diodes are connected to the "add" and "subtract" inputs respectively. The diode outputs are connected to the set terminals of the commutation flip-flops for all following digital positions.

2/2

21

USSR

UDC 621.374.32

SHUBAREV, V. A., OVSISHCHER, P. I., LAZER, I. M.

"A Reversible Shift Register"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 33, Soviet Patent No 285064, class 21, filed 4 Jul 69, published 29 Oct 70, pp 42-43

Translation: This Author's Certificate introduces a reversible shift register with data transmission in direct code. A digital place contains two commutation flip-flops and a storage flip-flop which are based on potential AND-NOT (NOR) logic elements. As a distinguishing feature of the patent, the circuit is simplified and speed is increased by adding an auxiliary AND-NOT (NOR) logic element in each digital place. This additional logic element is coupled by a flip-flop to the zero branch of the storage flip-flop. The second input of the auxiliary element is connected to the set terminal of the storage flip-flop, and the third input is connected to the "left shift" line. The output of the auxiliary element is connected by interdigit coupling to the input of the first commutation flip-flop of the preceding digital place, and the one-output terminal of the storage flip-flop is connected by interdigit coupling to the input of the first

1/2

USSR

SHUBAREV, V. A., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, 1970, No 33, Soviet Patent No 285064, class 21, filed 4 Jul 69, published 29 Oct 70, pp 42-43

commutation flip-flop of the next digital place. The auxiliary input of the ones arm of the storage flip-flop is connected to the "right shift" line.

2/2

- 30 -

USSR

UDC 548.517

KOSTYUCHENKO, V. P., and OVSIYENKO, D. YE., Institute of Metal Physics,  
Academy of Sciences Ukr SSR

"Effect of Some Refractory Oxides on the Supercooling and Structure of Iron"

Kiev, Metallofizika, No 39, 1972, pp 96-102

Abstract: The effect of refractory oxides on the supercooling and macrostructure of iron was studied. With the addition of small amounts of oxides into a 100-gram sample of iron being melted and crystallized in a crucible in a high-frequency furnace, it was observed that magnesium oxide takes away the supercooling of iron and refines the structure somewhat; beryllium oxide, zirconium dioxide, and aluminum oxide reduce supercooling down to 1400°C and, with the exception of zirconium dioxide, does not affect the macrostructure; titanium dioxide and silicon dioxide do not prevent obtaining maximum supercoolings of iron for these volumes (2800) and do not affect the macrostructure. Investigation of the solidification of an iron drop on substrates of the above-mentioned oxides, according to the method of studying crystallization in small volumes, leads to obtaining one and the same supercoolings of 300-350°C independent of the substrate material. 3 figures, 1 table, 6 bibliographic references.

1/1



USSR

UDC 548.517

OVSIYENKO, D. YE., ALFINTSEV, G. A., and MASLOVA, V. V., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Effect of Silicon and Manganese on the Supercooling of Iron"

Kiev, Metallofizika, No 39, 1972, pp 102-105

Abstract: The effect of silicon and manganese on the supercooling of iron samples (almost 4 cm<sup>3</sup>) melted under a slag and the supercooling of Fe-Si alloys in small volumes (10<sup>-5</sup>-10<sup>-8</sup> cm<sup>3</sup>) was investigated. The supercooling of iron and Fe-Si and Fe-Mn alloys with different concentrations of silicon and manganese when melting under a slag was approximately 265°, from which the conclusion was made about the absence of an effect on the kinetics of iron crystallization from manganese and silicon. It was established that supercooling of iron in small volumes increases with increased silicon concentration in the alloy. This is explained by the action of silicon as a deoxidizer. It is assumed that the decrease in supercooling of iron, observed by a number of authors (or its complete removal), upon adding silicon, is associated with the effect of iron oxides. 6 figures, 10 bibliographic references.

1/1

USSR

UDC: 51

KORBUT, A. A., OVSIEVICH, B. L., OGANESYAN, L. A., PITTEL', B. G., Leningrad Department of the Central Mathematical Economics Institute, Academy of Sciences of the USSR

"Concerning V. V. Kolbin's Survey 'Stochastic Programming'"

Po povodu obzora V. V. Kolbina "Stokhasticheskoye programmirovaniye" (cf. English above), Leningrad, 1971, 12 pp, ill. (No 4000-72 Dep.) (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V443 Dep.)

Translation: It is shown that V. V. Kolbin's survey "Stochastic Programming" (RZh-Mat, 1970, 6V529) is mostly plagiarized from Zellmer's papers (G. Zellmer, "On Formulating Problems in Linear Stochastic Optimization", Math. und Wirtsch., Band 6, Berlin, 1969, pp 11-44; Wiss. Z. Hochsch. Oekonomie, Berlin, 1968, No 2, pp 163-169; No 4). The numerous inaccuracies and errors of the survey are analyzed. In particular, mention is made of gross errors in lemma 1.1, in the corollary of lemma 1.2, in lemmas 5.1, 5.2 and 5.4, and in theorems 5.1, 6.1 and 8.1. Authors' abstract.

1/1

1/2 030  
UNCLASSIFIED  
TITLE--COAGULATION AND ANTICOAGULATION SYSTEMS OF THE BLOOD IN PATIENTS  
WITH UNCOMPLICATED CEREBRAL ATHEROSCLEROSIS -U-  
AUTHOR--(03)-BORISENKO, R.I., OYSOV, V.V., SVIRIDOVA, L.P.  
PROCESSING DATE--18SEP70  
COUNTRY OF INFO--USSR  
SOURCE--VRACHEBNOYE DELO, 1970, NR 2, PP 89-92  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--BLOOD COAGULATION, ATHEROSCLEROSIS, BRAIN, PROTHROMBIN, BLOOD  
PLASMA, HEPARIN, CHOLESTEROL, LIPID METABOLISM, LIPOPROTEIN  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1982/0800  
STEP NO--UR/0475/70/000/002/0089/0092  
CIRC ACCESSION NO--AP0052237  
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0052237

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A STUDY OF 201 PATIENTS WITH CEREBRAL ATHEROSCLEROSIS REVEALED A MODERATE DECREASE OF THE PROTHROMBINE ACTIVITY, AN INCREASE OF BLOOD PLASMA HEPARIN TOLERANCE, INCREASE OF CHOLESTEROL AND BETHA LIPOPROTEIDS. UNDER THE EFFECT OF DRUG THERAPY NO SIGNIFICANT CHANGES OF THE COAGULATION PROPERTIES OCCURRED. FOLLOWING TREATMENT WITH HYDROSULFIDE BATHS THE PROTHROMBINE ACTIVITY DECREASED AND THE CHOLESTEROL LEVEL MODERATELY INCREASED. CONIFEROUS BATHS EXERTED NO DISTINCT EFFECT ON BLOOD COAGULATION AND LIPOID METABOLISM. IN PLANNING COMPLEX TREATMENT THE COAGULATION AND ANTICOAGULATION SYSTEMS OF THE BLOOD AND LIPOID METABOLISM SHOULD BE CONSIDERED.

UNCLASSIFIED

USSR

UDC 547.398.547.599.547.71

MALINOVSKIY, M. S., KAS'YAN, L. I., OVSYANNIK, V. D., Dnepropetrovsk  
State University imeni 300-letiya vossoyedineniya Ukrainy s Rossiyei

"Oxidation of Bicyclo  $[2,2,1]$ -5-heptene-exo-2-carboxamides"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 10, Oct 71,  
pp 2139-2143

Abstract: Some bicyclo  $[2,2,1]$ -5-heptene-exo-2-carboxamides were  
synthesized from bicyclo  $[2,2,1]$ -5-heptene-exo-2-carboxylic acid  
via the acid chloride. Oxidation of the resultant bicyclo  $[2,2,1]$ -  
5-heptene-exo-2-carboxamides with perphthalic acid at the moment  
of formation from phthalic anhydride and concentrated hydrogen  
peroxide in the presence of urea gives the corresponding epoxides.

1/1

- 32 -

USSR

UDC: 535.371

OVSYANKIN, V. V., PEOFILOV, P. P., State Optics Institute imeni S. I. Vavilov

"Cooperative Processes in Fluorescing Systems"

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Fizicheskaya, Vol 37, No 2, Feb 73, pp 262-272

Abstract: The article reviews the cooperative phenomena caused by resonant and nonresonant interactions in fluorescing condensed media. Particular attention is given to processes of summation of the energy of electron excitations and the part they play in sensitization of photophysical, photochemical, and photobiological phenomena which take place with an energy deficit.

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CSO: 1862-W

1/1

- 76 -

USSR .

UDC 535.373.2:553.824

OVSYANKIN, V. V., FEOFILOV, P. P.

"Cooperative Luminescence of Barium and Yttrium Fluorides Activated by Ytterbium and Holmium"

Leningrad, Optika i Spektroskopiya, No 6, Dec 71, pp 944-948

Abstract: A comparative study was made of the role of cooperative and sequential sensitization in the population of radiative states of holmium in polycrystalline barium and yttrium fluorides containing trivalent ytterbium. The spectra and dependence on excitation intensity of the anti-Stokes luminescence of polycrystalline samples of  $BaF_2$  and  $YF_3$  activated by  $Yb^{3+}$  and  $Ho^{3+}$  were investigated. The anti-Stokes luminescence of holmium was excited by modulated infrared radiation of an incandescent lamp which was passed through a MDR-2 monochromator and a KS-19 filter. The spectra of the anti-Stokes luminescence of  $Ho^{3+}$  in the spectral region 460-560 nm show that the spectrum consists of two groups of lines greatly differing in intensity, with maxima about 480 and 550 nm. The photometric dependence of the intensity of the anti-Stokes luminescence on the intensity of the exciting radiation showed that in

1/3

USSR -

OVSYANKIN, V. V. et al, Optika i Spektroskopiya, No 6, Dec 71, pp 944-948

the range of change in excitation intensity from  $10^{14}$  to  $10^{16}$  quanta/cm<sup>2</sup>-sec the luminescence intensity in both bands is described by a quadratic law. This result is said to indicate the two-quantum character of the excitation, since saturation of none of the possible intermediate states is observed in this range. It was established that the population of the higher radiative levels  $^5F_3$  of the  $Ho^{3+}$  ion under excitation in the region of the absorption bands of  $Yb^{3+}$  (0.9-1.0  $\mu$ ) is due to a mechanism of cooperative sensitization but due to sequential sensitization as regards the levels  $^5S_2$  and  $^5F_4$ . It is noted that a considerable change in both the microscopic and phenomenological aspects in the current theory of the phenomenon of conversion of infrared radiation in crystals with two activators is necessary to extract the most important information from this experiment. This case of conversion of infrared radiation into visible radiation in systems with several types of activating ions shows that the population of highly energetic excited states of ions of one type under excitation in the absorption region of ion-coactivators can be quite complex and

2/3

- 126 -



USSR -

OVSYANKIN, V. V. et al, Optika i Spektroskopiya, No 6, Dec 71,  
pp 944-948

can occur through several mechanisms acting in parallel. The widest possible assortment of analytic methods is recommended to establish the true mechanism involved under the conditions of this experiment.

3/3

1/2 020  
TITLE--EFFECTIVENESS OF EXCITATION ENERGY ACCUMULATION IN BAF SUB2 ER  
CRYSTALS -U-  
AUTHOR--OVSYANKIN, V.V.  
COUNTRY OF INFO--USSR  
SOURCE--OPT. SPEKTROSK. 1970, 28(1), 206-8  
DATE PUBLISHED-----70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--ERBIUM, BARIUM COMPOUND, FLUORIDE, LUMINESCENCE, EXITATION  
ENERGY, CRYSTAL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/0923  
CIRC ACCESSION NO--AP0121525  
STEP NO--UR/0051/70/028/001/0206/0208  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121525  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. EXPTS. WITH BAF SUB2 CRYSTALS  
CONTG. 6 MOLE PERCENT ER PRIME3 POSITIVE GAVE ADDNL. JUSTIFICATION FOR  
THE MODEL OF EXCITATION ENERGY ACCUMULATION (O., 1967). THE CALCD.  
VALUE OF THE PHENOMENOLOGICAL CONST. ALPHA, DESCRIBING THE EFFICIENCY OF  
ENERGY ACCUMULATION, IS 7 TIMES 10 PRIME NEGATIVE 15 CM PRIME3 PER SEC  
AND AGREES WITH EXPTL. VALUES. WITH INCREASING INTENSITY OF EXCITATION  
LIGHT (900-1000 NM), THE INTENSITY OF COOPERATIVE LUMINESCENCE INCREASES  
LINEARLY GIVING QUANTUM EFFICIENCY SIMILAR TO 0.5 AND ENERGY EFFICIENCY  
SIMILAR TO 0.9.

UNCLASSIFIED

USSR

UDC 621.376

OVSYANKINA, V. M., PLUZHNIKOV, V. M.

"Potential and Mode Possibilities of Dielectric Converters of Small Currents"

Novyye beskontaktn. elektron. ustroystva. Ch. 1 (New Contactless Electronic Devices. Part 1), Moscow, 1970, pp 173-176 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9D225)

Translation: This article contains an investigation of the possibility of using ferroelectrics in small signal modulators. Their positive and negative qualities are noted. There are four illustrations and a four-entry bibliography.

1/1

USSR

UDC 576.3:612.017:615.5

OVSYANKO, E. P., ROZIN, M. A., and EFROS, A. M.

"The Effect of Benzimidazole Derivatives on the Heat Resistance of Tradescantia Leaf Cells", pp 50-54, Sentez Belka i Rezistentnost' Kletok, (Protein Synthesis and Cell Resistance), Leningrad, "Nauka," 1971, 104 pp

Abstract: The resistance of Tradescantia leaf cells to the effect of 41°C temperature and the infiltration of solutions of test substances into leaf fragments were determined according to the Aleksandrov method (1955). Under the influence of benzimidazole, 2-methylbenzimidazole, and 2-benzylbenzimidazole (dibazole) in a concentration range of  $4.1 \cdot 10^{-7}$  --  $4.1 \cdot 10^{-9}$  M, the heat resistance of cells increased. 1,2,3-Trimethyl-benzimidazole was ineffective. In the presence of chloramphenicol ( $3.1 \cdot 10^{-7}$  --  $3.1 \cdot 10^{-9}$  M) or puromycin ( $2.1 \cdot 10^{-8}$  --  $2.1 \cdot 10^{-10}$  M), stimulating effect of benzimidazole derivatives on the heat resistance of Tradescantia cells was not observed.

1/1

- 121 -

USSR

UDC 632.95

OVSYANKO, E. P., and KOZLOVSKAYA, V. I.

"Effect of Certain Organophosphorus Insecticides on the Sorption of Neutral Red by the Ventral Ganglionic Chain of Cabbage Looper Caterpillars"

Zap. Leningr. s.-kh. in-ta (Notes of Leningrad Agricultural Institute), 1972, 180, pp 44-48 (from RZh-Khimiya, No 14, 25 Jul 72, Abstract No 14N442 by T. A. Belyayeva)

Translation: The investigation consists of the detection, by the vital-staining method, of changes in the ventral ganglionic chain of cabbage looper caterpillars when poisoned by Rogor, phosalone, Cidial and Gardona. Intensification of the sorption of Neutral Red is observed in poisoned caterpillars.

USSR

UDC 612.83

KURBATOV, V. I., and OVSYANNIKOV, A. V., All Union Scientific Research  
Institute of Physical Culture, Moscow

"Spinal Reflex Effects in Man During Static Loads"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, Vol 20, No 6, 1970, pp 1,310-  
1,312

**Abstract:** Eight human subjects were required to hold as long as they could a weight on the right leg raised slightly from the floor. While doing so the monosynaptic H reflex was elicited every 10 sec in the resting left leg by electrical stimulation. The reflex was substantially increased as long as the weight was held. In another series of experiments, the blood flow to the right leg was cut off by a tourniquet applied to the thigh. One minute after the afferent block, the subject was again required to lift and hold the weight as long as possible while the H reflex was elicited in the other leg. And once again the reflex increased. Thus, a static load on one extremity intensified the excitability of the motoneurons in the gastrocnemius and soleus in the other extremity, as shown by the increased H reflex. Facilitation of the reflex was apparently due to afferent impulses reaching the spinal cord from the active muscles rather than to supraspinal influences.

1/1

USSR

UDC 620.17:669.14.0.18.298

TAMARINA, I. A., OVSYANNIKOV, B. M., and GOLIKOV, I. N.

"Mechanical Properties of Structural Steel After Refining Remeltings"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 74,  
pp 14-16

Abstract: The effect of electroslog (ESR) and vacuum-arc remelting (VAR) was studied on resistance to deformation, ductility, and impact strength of structural chromium and Cr-Ni-Mo steels (40KhNM, 20 KhNM, 15 KhNM, 50 Kh, 40 Kh, and 20 Kh) after quenching and low and high tempering. ESR steels are characterized by better ductility properties than VAR steel, which is attributed to the redistribution of stresses to a higher degree in ESR steels. In the low-tempered condition, VAR steels have a higher impact strength and resistance to crack development, while under condition of ductile and ductile-brittle failure, ESR steels possess higher strength and energy properties. Increasing carbon content in the steels lowered strength while additions of nickel and molybdenum improved strength. Refining remeltings of both ESR and VAR steels significantly increases their energy capacity in the high-tempered state in the pre-failure stage, i.e., the stage of crack development  
1/2

- 28 -



USSR

TAMARINA, I. A., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov,  
No 1, Jan 74, pp 14-16

and growth up to a critical dimension in the presence of stress concentrations and a volume-stress state. Two tables, two bibliographic references.

2/2

USSR

UDC 539.43

LEBEDEV, D. V., OVSIANNIKOV, B. M., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin

"The Effect of Stress Concentration Upon the Properties of Steel for Cryogenic Engineering"

Kiev, Problemy Prochnosti, No 2, Feb 72, pp 70-77

Abstract: An investigation is made of the stress concentration created by circular grooves with various geometric parameters on cylindrical specimens, by cracks on flat specimens in the case of static stretching, and by one-sided grooves and cracks on prismatic specimens in the case of dynamic flexure, upon the mechanical properties of steel in the temperature range from 20 to -253° C. An analysis of the indicative value of static and dynamic test methods under conditions of the action of stress concentration was conducted. For evaluation of the deformation property of cryogenic steel within the indicated temperature interval, three coefficients were proposed, which take into account the action of stress concentrators when the deformation temperature changes. Six figures, 15 references.

1/1

USSR

"UDC 620.17:669-155.3:621.785.78.9

LEBEDEV, D. V., ~~OVSYANNIKOV, B. M.~~ and ANTROPOV, N. P., Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin (TsNIIChERMET)

"Mechanical Properties of Nitrided Austenitic Steels at Low Temperatures"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 2, 1972, pp 10-15

Abstract: A study has been made of the effect of surface nitriding of specimens of Kh18Ni10T and Kh21Ni5Ag7 (EP222) steels on their mechanical properties at +20, -196, and -253°C. The nitrided layer was 0.18-0.2 mm thick. It is shown that the supporting power of surface-nitrided Kh18Ni10T steel versus ordinary steel under linear state of stress is 20% higher within +20 to -253°C under static load conditions. Nitrided Kh18Ni10T steel is insensitive to stress concentration under three-dimensional state of stress and linear static loads at below-zero temperatures (as low as -253°C). Under dynamic bending, surface nitrided Kh18Ni10T steel exhibits high formability under three-dimensional state of stress in the deformation zone and is suited for use at below-zero temperatures (as low as -253°C). Surface nitrided Kh21Ni5Ag7 steel has low formability under both static loads and dynamic bending within +20 to -253°C, is sensitive to

1/2

USSR

LEBEDEV, D. V., et al, Metallovedeniye i termicheskaya obrabotka metallov,  
No 2, 1972, pp 10-15

stress concentration and is unsuited for service under either linear or  
volumetric state of stress and under above types of loads even at +20°C.  
(4 illustrations, 1 table, 3 bibliographic references).

2/2

36 -

USSR

UDC: 621.787:621.735.92:620.17

LEBEDEV, D. V., and OVSYANNIKOV, B. M., TsNIICHERMET (Central Scientific Research Institute of Ferrous Metallurgy imeni I. P. Bardin)

"Effect of Work Hardening of Specimens on Mechanical Properties at Low Temperatures"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, Sept 71, no 9, pp 24-28

Abstract: Machining of specimens for mechanical tests hardens the surface layer and produces residual stresses. When cooled to sub-zero temperatures and subsequently formed, such specimens from austenitic metastable steels develop in the work-hardened zone a higher martensite content which adversely affects the plastic properties of these specimens. The drop in plasticity depends on the tool's cutting depth during its last pass and also on the testing temperatures; it was found to occur at cutting depths of 0.3 mm and higher and only when the tests were conducted in liquid hydrogen. The problem may be alleviated by either machining the specimens at depths lower than 0.3 mm (at the last pass of the tool) or by tempering (for cases involving deeper cutting). This study was conducted on Kh18N10T,

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USSR

LEBEDEV, D. V., et al, Metallovedeniye i termicheskaya obrabotka metallov, Sept 71, no 9, pp 24-28

Kh21N5AC7 (EP222), and Kh25N18 steel grades most widely used in cryogenic technology. The tests were conducted at temperatures from 20 to -253°C. The mechanical properties of the above grades (in low-temperature forming) on untempered specimens and specimens tempered at 450°C for 3 hrs were almost identical for cases involving cutting depths of 0.1 mm (at the last pass of the cutting tool).

2/2

- 21 -

USSR

UDC 669.14:620.172.2

GULYAYEV, A. P., LEBEDEV, D. V., OVSYANNIKOV, B. M., TIMOSHUK, L. T.

"Determination of Mechanical Characteristics of High Strength Steels in Extension"

Moscow, Zavodskaya Laboratoriya, Vol 37, No. 8, 1971, p 967-970.

Abstract: Problems are studied related to the necessity of supplementing existing All-Union State Standard GOST 1497-61 for estimation of the mechanical properties of high strength, low ductility steels ( $\sigma_B > 200 \text{ kg/mm}^2$ ). These additions concern both the norms for the technology of preparation of specimens, their surface condition, shape and size, as well as the techniques of preparation of machines for testing. The existing standard should be used for tensile testing of materials with strengths of less than  $200 \text{ kg/mm}^2$  and relative reduction in area greater than 15%. For high strength, low ductility materials, the characteristics produced by the standard method may be unreliable.

1/1

USSR

UDC 539.5

LAZ'KO, V. G., LAZ'KO, V. Ye., OVSYANNIKOV, B. M., Moscow

"Interrelationship of Microstructure and Rupture Characteristics of High Strength Steels"

Problemy Prochnosti, No 10, 1971, pp 86-90.

Abstract: Some dependences of rupture characteristics of steel on elements of the martensitic structure typical for a number of classes of high strength steel are studied on the example of Type 40Kh2GSNMA high strength steels subjected to hardening and tempering at low temperature (220°). The data produced showed that an increase in the dispersion of the structure causes not only an increase in strength characteristics, but also an increase in rupture characteristics of the steel. The grain size of the steel was altered both by hardening from various temperatures and by modeling of welding heating cycles. The results indicate a simultaneous decrease in the work of formation and the work of development of cracks with increasing grain size.

1/1



UDC 669.017.1

USSR

QVSYANNIKOV, B. M., and LAZ'KO, V. G.

"Influence of Stress Concentration on Strength of Low-Alloy and Structural Steels During Static Extension as a Function of Test Temperature"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 222-229

Translation: The dual nature of the influence of stress concentration on strength and ductility of steels as a function of geometric parameters of the notch and test temperature is demonstrated. In a significant number of cases, stress concentration, down to rather low temperatures, helps to increase the strength of a notched specimen. Only under conditions of sharp stress concentration or at very low temperatures is a softening effect noted.

It is demonstrated that a significant decrease in strength at temperatures corresponding to the actual operating temperatures of low-alloy and structural steels is observed only when specimens with a preliminarily induced crack are tested. Therefore, in order to estimate the strength of these materials, particular attention must be given to testing of specimens with sharp crack-type stress concentrators. 7 figures; 4 biblio. refs.

1/1

- 43 -

USSR

UDC 529.014.2

KHARCHEVNIKOV, V. P., and OVSYANNIKOV, B. M., Moscow, Central Scientific Research Institute of Ferrous Metallurgy

"Tendency to Brittle Fracture of Low-Carbon Steels Under Tensile Stress"

Kiev, Problemy Prochnosti, No 8, Aug 70, pp 94-98

Abstract: A method is outlined for evaluating the resistance to brittle fracture of two brands of 17G1S steel under tensile stress. Flat samples with initiated cracks of definite size were used. The temperature range of the tests was from 20° to -196°C. Samples were cut from heat rolled sheets 3 mm thick. Resistance to brittle fracture was studied through variation of yield point, strength, elongation per unit length, strength of samples with an initiated crack, and coefficient of stress intensity, with real size of ferrite grain. Grain size was determined after normalizing in the temperature range from 900 to 1250°C in accordance with GOST 5639-65.

The temperature corresponding to fracture without deformation initiation may serve as a criterion for low-carbon steel. The strength, yield point, and elongation of both steel melts were about the same, although they varied a little with grain size.

1/1

USSR

UDC 669.15-194.2:669-973

UL'YANIN, YE. A., OVSYANNIKOV, B. M., Central Scientific Research Institute of Ferrous Metallurgy

"Alloying of Austenitic Steels for Use under Conditions of Extreme Cold"

Moscow, Metallovedeniye i termicheskaya obrabotka metallov, No 6, 1970, pp 20-23

Abstract: An attempt is made to determine expedient limits for alloying cold-resistant austenitic steels with relatively large amounts of such metals as manganese, nickel, and chromium, which form substitute solid solutions with iron. A table shows steel structures at 20, -196, and -253°C. Impact tests were conducted on cylindrical samples with an annular 2-mm-deep cut with 0.9", 0.6", and 0.25" radii at the top, and also on pre-cracked samples. The effect of manganese, nickel, and chromium on mechanical properties was studied and the results are presented in graphs. It is concluded that the content of the alloying elements must ensure the total absence of the martensite phase when cooling the steel to operating temperatures, and also in the case of local plastic deformation. The introduction of excess quantities of Cr, Mg, and Ni, which ensure a total austenite stability, is desirable only for steels with certain properties. 3 figures, 1 table, 5 references.

1/1

USSR

UDC 532.528

YERSHOV, N. S., ~~OVSYANNIKOV, B. V.~~, and RAMODINA, V. V.

"Investigation of Cavitation Development in Axial Screw Forepumps by Means of High-Speed Photography"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 2, 1972, pp 173-175

Abstract: Results are presented of high-speed photography of the cavitation zones in an axial screw forepump with change of the backwater at the intake. The experiments were conducted with ordinary tap water and with deaerated water at two flow rates. Analysis of the obtained photos shows that cavitation with liberation of air differs greatly from cavitation caused purely by water vapor. The experimental results make it possible to obtain the development pattern of cavitation zones that form in axial forepumps. 2 figures.

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- 74 -

USSR

UDC 621.318.435.3

KALUZHNIKOV, N. A., ~~OVSYANNIKOV, G. D.~~

"Reversing High-Speed Magnetic Amplifier"

USSR Author's Certificate No 296222, Filed 29/12/69, Published 8/04/71,  
(Translated from Referativnyy Zhurnal Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 11, 1971, Abstract No 11 A129 P).

Translation: The authors suggest a reversing high-speed MA [magnetic amplifier] with dc load, controlled by an alternating current signal, containing two cores with control and operating windings and connected in series with diodes, a multiple-winding power supply transformer, and ballast resistors. In order to simplify the MA, the working windings are connected in series to the secondary windings of the power supply transformer, and condensers are connected between the load and ballast resistors.

1/1

- 35 -

1/2 020 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--ON THE CLINICAL PICTURE OF MONDOR'S DISEASE -U-

AUTHOR-(04)-VASILYEV, T.V., SHIBANOV, V.A., OVSYANNIKOV, L.M.,  
TOPOROVSKIY, L.M.  
COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 68-71

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--REPRODUCTIVE SYSTEM, GENITOURINARY SYSTEM DISEASE, LESION,  
VENEREAL DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/2048

STEP NO--UR/0206/70/000/005/0068/0071

CIRC ACCESSION NO--AP0122277

UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NU--AP0122277

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE LAST 12 YEARS THE AUTHORS OBSERVED 13 PATIENTS WITH MONDOR'S DISEASE IN THE PENIS. CLINICAL MANIFESTATIONS OF THE DISEASE CONSISTED IN STRANDS IN THE INNER FOLD OF THE PREPUCE AND IN THE CORONAL SULCUS, OF DENSELY ELASTIC CONSISTANCE AND SLIGHTLY TENDER UPON PALPATION. SOMETIMES THE SURFACE OF THE SKIN ABOVE THE STRANDS UNDERWENT EROSION OR WAS ULCERATED AND IN THESE CASES THE CLINICAL PICTURE WAS SIMILAR TO THAT OF INDURATED CHANCER. A CAREFUL CLINICAL AND LABORATORY EXAMINATION IN THE HOSPITAL AND SUBSEQUENT CLINICAL SEROLOGICAL FOLLOW UP FOR 6-12 MONTHS PERMITTED TO EXCLUDE SYPHILIS, IN THESE PATIENTS COMPLETELY. IT IS EMPHASIZED THAT MONDOR'S DISEASE MAY NOT INFREQUENTLY SIMULATE PRIMARY SYPHILIS WHEN LOCALIZED IN THE PENIS. IN SUCH CASES A COMPLEX CLINICAL LABORATORY EXAMINATION MUST BE CARRIED OUT IN ORDER TO EXCLUDE SYPHILIS. FACILITY: OTDEL SIFILIDOLOGII TSENTRAL'NOGO N-I KOZHNO-VENEROLOGICHESKOGO INSTITUTA MINISTERSTVA ZDRAVOOKHRANENIYA SSSR I BOL'NITSA IM. V. G. KOROLENKO, MOSCOW.

UNCLASSIFIED

OVSYANNIKOV, M.I.

SVFS 69205  
6-72

SESSION XVI

XVI-1. EPITAXIAL MULTILAYERED SILICON STRUCTURES OBTAINED BY SUBLIMATION IN A VACUUM

Article by K.G. Lazina, M.I. Ovsyannikov, Yu. A. Romanov, Gai'lya; Novosibirsk. III Simposium na Protsessam Rosta i Sintesa Poluprovodnikovykh Kristallov i Plazm, Kuznetsk, 12-17 June 1972. p 2201

1. The method of silicon sublimation in a vacuum was used to obtain epitaxial multilayered structures consisting of  $n$ -type layers with a number of layers to 50. The thickness of the layers varied from 100 Å to 1 micron.
2. Electron diffraction and electron microscopy studies of the structures obtained were performed.
3. Studies were made of the nucleation and distribution of growth defects in multilayered silicon structures. As a rule, the nucleation of the defects take place at the interfaces of the layers. The causes of the given phenomenon are discussed.
4. The mechanism of the discovery of individual layers in epitaxial multilayered structures by the etching method is discussed.



USSR

USC: 681.3(02)

MIN'KOVSKIY, Ye. M., OVSYANNIKOV, N. N.

"Operation of Computers"

Ekspluatatsiya Vychislitel'nykh Mashin [English version above], Third edition, revised and supplemented, Moscow, Statistika Press, 1970, 383 pp (translated from Referativnyy Zhurnal Avtomatika, Telemekhanika I Vychislitel'naya Tekhnika, No 3, 1971, Abstract no 3 B18 K by V. M.)

Translation: This book is written for the course "Operation of Computers" for training of operators and instructors. The course is based on the experience of operation and training of workers on the KZSM computer models VMP-2 and VMA-2 and "Bystritsa," the "Vil'nyus" and "Vyatka" relay computers, and the "Vega" electronic computer. The more recent "Zoyempron" and "Tsellatron" computers (GDR) and the VK-2 computer are also described. The book consists of six sections. The first section presents a general description, brief characterization, and schematic diagrams of the operation of the various computers. Here also are given the primary principles of the theory of computation. Section 2 presents the operations of the computer process and describes the computer elements. The authors have used the unified nomenclature for parts of relay and electromechanical computers here for the first time. The third section covers arithmetic and combined calculations on

USSR

USC: 681.3(02)

MIN'KOVSKIY, Ye. M., OVSYANNIKOV, N. N., Ekspluatatsiya Vychislitel'nykh Mashin, Third edition, revised and supplemented, Moscow Statistika Press, 1970, 383 pp

computers. The specifics of the application of computers in algebraic calculations are analyzed in section 4. The fifth section familiarizes the reader with the use of computers in economics calculations, accounting, planning, and statistics. Section 6 is devoted to the description of the "Vega" computer. The book contains methodological instructions, allowing it to be used by teachers in this course.

- 50 -

2/2

USSR

UDC 621.385.624(088.8)

GINZBURG, V.YE., LEBEDINSKIY, S.V., MIKHALEV, A.K., OYCHAROV, V.T.

"Collector Of Microwave Electron Device"

USSR Author's Certificate No. 271661, filed 30 Dec 67, published 31 May 71  
(from RZh--Elektronika i yeye primeneniye, No 12, Dec 1971, Abstract No 12A264P)

Translation: The collector proposed for a Type O microwave electron device contains two isolated electrodes arranged in series with respect to the direction of movement of the electron beam. One of them is supplied at the side adjacent to the other with a nonsymmetrical element, e.g., a projection [vystup] in the form of a half cylinder. With the object of increasing the maximum power and efficiency of the device, the electrodes of the collector are supplied with a means for forced cooling and are arranged one with respect to the other in such a manner that the projecting half cylinder, which is a continuation of the cylindrical bushing [vtulka] attached to the electrode with the lower potential, is surrounded by the internal cylindrical surface of the second electrode equal to it in height, which serves as a precollector.

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- 110 -

USSR

UDC: 621.396.674.3

KOLOMOYTSEV, P. I., VARYVDIN, V. S., OVSYANIKOV, V. V.

"Using Capacitive Elements to Increase the Bandwidth of Folded Dipoles"

Moscow, Radiotekhnika i Elektronika, Vol 27, No 11, Nov 72, pp 2429-2431

Abstract: An analysis is made of folded dipole antennas with discretely connected impedances, and in particular with capacitive elements. Results are given on calculation and experimental analysis of a broadband symmetric V antenna with inserted capacitors. The results show that the capacitors smooth out the current distribution on the dipole and prevent phase inversions at current "nodes". Conditions close to the traveling wave mode are set up in the antenna. Both the input impedances and radiation pattern are stabilized, input reactance is considerably reduced in absolute value and the resistive component of the input impedance is stabilized. The V dipole gives at least 0.5 for the TWR in a frequency band of 50-60% as compared with 20% for a similar antenna without capacitors.

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USSR

UDC 621.384.32

OVSYANNIKOV, V. A. and ROMANOV, A. M., Candidate of Sciences

"Methods of Converting the Three-Dimensional Spectra of Brightness Fields"

Optiko-mekhanicheskaya Promyshlennost', No 11, Nov 72, pp 20-22.

Abstract: The problem of conversion of the three-dimensional spectra of an optical background produced using one measurement apparatus for another measurement apparatus with different optical-electronic unit characteristics is studied. This problem is solved for two models of background spectra: isotropic and separable. The solution produced is correct for the case of negligibly low noise levels of the measurement apparatus. The results of this work may be useful for processing of data on three-dimensional frequency fluctuations of an optical background produced by one-dimensional scanning. The background models studied allow the two dimensional energy spectrum to be restored on the basis of three dimensional frequencies from the known one dimensional spectrum.

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USSR

UDC: 621.391:621.317

BITUS, A. K., OVSYANNIKOV, A.

"Using Haar Functions to Measure the Law of Probability Distribution of Random Processes"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 3 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 3), Novosibirsk, 1970, pp 18-20 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A306)

Translation: The authors examine a method of plotting histograms for the distribution of interference amplitudes with irregular quantization of levels. Analysis of the distribution function is based on expanding it in a series in orthogonal functions, this expansion being treated as the algorithm of a measuring instrument. The circuit which realizes this algorithm is given; the system is essentially a single-program computer which can be made either in digital or analog form. An oscilloscope with persistence is used to register the distribution function. One illustration, bibliography of two titles. N. S.

1/1

1/2 019 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--EFFECT OF SEROTONIN ON CORONARY VESSELS -U-  
AUTHOR--DVSYANNIKOV, V.I.  
COUNTRY OF INFO--USSR  
SOURCE--KARDIOLOGIYA 10(1): 53-58. ILLUS. 1970  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--CORONARY BLOOD CIRCULATION, SEROTONIN, INTRAVENOUS PERFUSION,  
BLOOD PRESSURE, REFLEX  
  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3004/0549 STEP NO--UR/0495/70/010/001/0053/0058  
CIRC ACCESSION NO--AP0131172  
UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0131172

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN ACUTE EXPERIMENTS ON CATS NARCOTIZED WITH URETHANE USING THE TECHNIQUE OF RESISTOGRAPHY FOR RECORDING CHANGES IN THE LUMEN OF CORONARY ARTERIES, SEROTONIN (OR INTRACORONARY AND IV INTRODUCTION) MAY CAUSE CONSTRICTION OF CORONARY VESSELS IRRESPECTIVE OF THE EFFECT OF EXTRAVASCULAR FACTORS. A DECREASE OF THE SYSTEMIC ARTERIAL PRESSURE AND BRADYCARDIA WHICH HAVE (THE DEPRESSIVE REACTION IS, APPARENTLY, PARTIAL) A REFLEX ORIGIN (CORONARY CHEMOREFLEX) ALSO OCCURS. FACILITY: INST. EXP. MED., ACAD. MED. SCI. USSR, LENINGRAD, USSR.

UNCLASSIFIED



USSR

UDC 612.172.1.014.50:615.362.013:547.757

OVSYANNIKOV, V. I., Laboratory of Circulation and Respiration,  
Department of General Physiology, Institute of Experimental Medicine,  
Academy of Sciences USSR

"The Effect of Serotonin on the Coronary Vessels"

Moscow, Kardiologiya, No 1, 1970, pp 53-59

Abstract: Intracoronary and intravenous injection of anesthetized cats with serotonin in an acute experiment resulted in constriction of the coronary vessels. The coronary response to serotonin was independent of extravascular factors. It occurred against a background of lowered systemic arterial pressure and weakening of myocardial contractions. Vasoconstriction occurred both in animals with intact carotid sinuses and vagus nerves and in animals with denervated carotid sinuses and transected vagus nerves. Besides increasing the resistance of the coronary vessels, serotonin caused a general depressor reaction and bradycardia. Bradycardia was reflex in nature (coronary chemoreflex), because there was no slowing of the heart beat when serotonin was injected into the coronary arteries of vagotomized animals. The lowering of systemic arterial pressure also appeared to be of reflex origin.

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Acc. Nr: **AP0037012**

Ref. Code: UR 0239

PRIMARY SOURCE: Fiziologicheskii Zhurnal SSSR, 1970, Vol 56,  
Nr 2, pp 226-230

ON THE MECHANISM OF THE CONSTRICTORY CORONARY VESSELS  
RESPONSES TO DECREASED EFFECTIVE BLOOD VOLUME

V. I. Gerasimov

Lab. of Circulation, General Physiology Dept., Institute for Experimental Medicine Acad.  
Med. Sci. USSR, Leningrad

Acute experiments in cats under urethane (1 g/kg) anesthesia showed the 1st type of the constrictory coronary vessels response (with a short latency) to decreased effective blood volume not to be a result of the C. N. S. hypoxia. Changes in the neurogenic activity of receptors localized in the sinocarotid and aortic zones, in caval veins, in the walls of the right heart and in the pulmonary vessels were concluded not to be the cause of the 1st type constrictory coronary vessels response. The receptors responsible for this response are probably localized in the left atrium.

D.N.

REEL/FRA  
19721945

USSR

UDC 662.951.2.001.5

KAPUSTIN, A. M., KUZNETSOV, V. N., OVSYANNIKOV, V. V., and SHADRIN, YE. N.

"On the Effect of the Nozzle's Diameter on the Injection Ratio of GBP Type Burners"

Nauch. tr. Omsk. in-t inzh. zh.-d/ transp. (Scientific Works of the Omsk Institute of Railroad Transportation Engineers), Vol 142, 1972, pp 17-19 (from Referativnyy Zhurnal -- Teploenergetika, No 3, 1973, Abstract No 3T93 by V. A. Speysheer)

Translation: The authors conducted experimental and theoretical investigations of the dependence of the injection ratio ( $U$ ) of type GBP-140 panel burners, with full preliminary mixing, on the diameter of the gas nozzle ( $d$ ) for various gas pressures ( $p_g$ ). It is a well known fact that when  $p$  is constant, a reduction in  $d$  causes an increase in  $U$ . However, in order to insure that a furnace's heating power remains constant when the number of burners remains the same and  $d$  is reduced, it is necessary to increase  $p_g$  accordingly, so that the gas flow rate remains unchanged. These factors exert contradictory effects on  $U$ , which causes the effect of each of them to be weakened. As a result of their experiments, the authors established that a reduction in  $d$  (from 3 to 2.4 mm) can increase  $U$  somewhat. If a furnace's heating power is controlled this way, additional

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USSR

KAPUSTIN, A. M., et al., Nauch. tr. Omsk. in-t inzh. zh.-d. transp. Vol 142, 1972, pp 17-19

burners should be used. In the case where the number of working burners remains constant and a stable thermal state is maintained in the furnace, reducing  $d$  while simultaneously increasing the value of  $p_g$  will not cause any noticeable increase in  $U$ . (2 illustrations; 3 bibliog.ref.)

2/2

- 54 -

USSR

UDC 541.124 + 547.772.2

OVSYANNIKOVA, L. A., and SOKOLOVA, T. A., Institute of High Molecular Compounds, Kiev, Academy of Sciences USSR

"Mechanism of the Formation of 1,1-Dimethylpyrazolinium-3-oxides"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, Vol 4, Apr 70, pp 917-918

Abstract: Acylation of N,N-dimethylhydrazine with anhydrides of  $\alpha, \beta$ -unsaturated acids leads first to the formation of N,N-dimethylhydrazide of the acid, which then regroups at an elevated temperature to its tautomer -- 1,1-dimethylpyrazolinium-3-oxide.

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1/2 012 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--MECHANISM OF FORMATION OF 1,1-DIMETHYL,3-PYRAZOLINIUM OXIDES -U-

AUTHOR--(C2)-CVSYANNIKOVA, L.A., SKKLOVA, T.A.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (4), 917-18

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL REACTION MECHANISM, ORGANIC OXIDE, ORGANIC AZO  
COMPOUND, AZIDE, HETEROCYCLIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3006/1310

STEP NO--UR/C062/70/000/004/0917/0918

CIRC ACCESSION NO--AP0134984

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124984

ABSTRACT/EXTRACT--(U) GP-C- ABSTRACT. FROM YIELD DATA ON THE REACTION OF METHACRYLIC ANHYDRIDE AND ME SUB2 NNH SUB2 RUN AT 9DEGREES WITH VARYING TIMES OF MIXING, AND AT NEAR ROOM TEMP. WITH RELATIVELY RAPID MIXING IT WAS CONCLUDED THAT THE PRIMARY PRODUCT IS THE DIMETHYLHYDRAZIDE OF THE ACID, WHICH ON WARMING REARRANGES INTO THE TAUTOMER, 1,1-DIMETHYLPYRAZOLINIUM,3,OXIDE (I). FACILITY: INST. VYSKOMOL. SUEIN., LENINGRAD, USSR.

USSR

UDC 582.264.45

OVSYANNIKOVA, M. N., and MOVSES'YAN, E. V., Institute of General Genetics,  
Academy of Sciences USSR, Moscow

"The Effect on Chlorella of Some Antibiotics Used for Purification of Monocellular  
Algae Cultures"

Moscow, Genetika, Vol 6, No 9, Sep 70, pp 61-66

Abstract: The mutagenic effect of eight antibiotics on Chlorella was investigated. All of the antibiotics markedly limited the growth and development of Chlorella cells and lowered their survival; the effects decreased in the following order: nystatin > penicillin > tetracycline > levomycetin > erythromycin > phenoxymethyl-penicillin > aureomycin > tetracycline. In the concentration range from 200 to 1,000 gamma/ml, all of the antibiotics were mutagenic. The spectrum of visible mutations resulting from the action of the antibiotics resembled the situation observed during spontaneous mutation. No clear correlation was noted between the chemical properties and the mutagenic effect of the antibiotics. To be effective, the antibiotics should generally be added to a liquid growth medium. The antibacterial activity of individual antibiotics, their chemical properties, and their genetic action must be considered in selecting proper agents for production of bacteriologically pure cultures of algae.

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- 15 -



USSR

UDC 8.74

OVSYUKOV, S. V.

"Use of ALCOL-60 in Hybrid Grid-Digital Computer Systems"

V sb. Vychisl. tekhn. i krayevyye zadachi (Computer Engineering and Boundary Problems — collection of works), vyp. 11, Riga, 1971, pp 32-39 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V590)

No abstract

1/1

- 64 -

Acc. Nr: **AP 0038104**

Ref. Code: UR 0326

PRIMARY SOURCE: Fiziologiya Rasteniy, 1970, Vol 17, Nr 1,  
pp 40-48

**DIFFUSION RESISTANCE OF LEAVES IN CONNECTION WITH THEIR  
ANATOMY**

Laysk, A.; Oya, V.; Rakhi, M.

Institute of Physics and Astronomy, Academy of Sciences, Est. SSR

The CO<sub>2</sub> and water diffusion resistances were measured in 13 species of plants. Stomatal parameters (stomata number, stomata slit and tube lengths) and the exposed internal surface of the leaves were measured for the same plants. It is assumed that the anatomically possible maximal slit width does not exceed 1/2 the slit length. The minimal stomatal resistances determined experimentally never dropped below the minimal values calculated theoretically (fig. 1). The mesophyll resistance for a given species was not constant. For each species the minimal values obtained correlated with those calculated on basis of leaf anatomy (fig. 2). It is concluded that leaf anatomy determines the maximal rate of net photosynthesis. Under natural conditions additional limiting factors will appear, such as respiration, closing of stomata and increase of mesophyll resistance. The latter may be of a diffusional or chemical nature.

REEL/FRA  
19731154

02

1/2 028 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--NITROSYL DERIVATIVES OF NIOBIUM AND TANTALUM -U-

AUTHOR--(041)-BUSLAYEV, YU.A., GLUSHKOVA, M.A., YERSHOVA, M.M.,  
DYCHINNIKOVA, N.A.  
~~COUNTRY OF INFO--USSR~~

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 474-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--NIOBIUM, TANTALUM, IR SPECTRUM, CHLORIDE, NITROSYL CHLORIDE,  
AMORPHOUS MATERIAL, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/1520

STEP NO--UR/0062/70/000/002/0474/0475

CIRC ACCESSION NO--AP0120301

UNCLASSIFIED

2/2 028


UNCLASSIFIED

PROCESSING DATE--23OCT71

CIRC ACCESSION NO--AP0120301

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PASSING DRY NO INTO A SOLN. OF METAL CHLORIDE IN C SUB6 H SUB6 (PREPD. OVERNIGHT BY LEACHING) GAVE BROWN COMPLEXES: NBCL SUB5 .NO AND TACL SUB5 .NO.C SUB6 H SUB6. THESE PROVED TO BE AMORPHOUS IN X RAY ANAL. THE IR SPECTRA HAVE BANDS IN THE 1480 CM PRIME NEGATIVE1 AND 1990 CM PRIME NEGATIVE1 REGIONS, CAUSED BY NO BOND VIBRATIONS. FACILITY: INST. OOSHCH. NEORG. KHIM. IM. KURNAKOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--11SEP70,  
TITLE--DIFFERENTIAL DIAGNOSIS OF ALLERGIC AFFECTIONS OF THE LUNGS -U-  
AUTHOR--DYFEBAKH, M.I., ATTAROVA, I.N.   
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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DATA OF CLINICAL AND ROENTGENOLOGICAL MANIFESTATIONS OF ALLERGIC AFFECTIONS OF THE LUNGS ARE DESCRIBED IN THE ARTICLE. THE AUTHOR UNDERLINES DIAGNOSTIC DIFFICULTIES WHICH GROW IN CASES WHEN ALLERGIC CHANGES ARE COMBINED WITH TUBERCULOSIS AND WHEN RELAPSING FORMS TAKE PLACE. AT THE SAME TIME THE SIGNIFICANCE OF TIMELY DIAGNOSIS FOR THE CHOICE OF THE EFFECTIVE METHOD OF TREATMENT IS POINTED OUT.

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USSR

OYKS, G. N., VAGIKH, M., and ABDUL SALAM EL SAKANIDI, Moscow  
Institute of Steel and Alloys

"Rapid Method of Determining Carbon and Oxygen Dissolved in Liquid Metal"

Moscow, IVUZ Chernaya Metallurgiya, No 3, 1971, pp 43-47.

Abstract: An attempt is made to determine the simultaneous content of carbon and oxygen in a liquid bath during the melt on the basis of the crystallization temperature. The method is based on measurement of the crystallization temperature of two specimens from the bath, one normal and one deoxidized by aluminum wire which is wrapped in a spiral around the thermocouple placed in the bath. Graphs are presented which can be used, based on the two temperatures, to determine the content of carbon and oxygen in the liquid metal after rapid cooling and crystallization of the two samples.

1/1

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"Rapid Method of Determining Carbon and Oxygen Dissolved in Liquid Metal"

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Abstract: An attempt is made to determine the simultaneous content of carbon and oxygen in a liquid bath during the melt on the basis of the crystallization temperature. The method is based on measurement of the crystallization temperature of two specimens from the bath, one normal and one deoxidized by aluminum wire which is wrapped in a spiral around the thermocouple placed in the bath. Graphs are presented which can be used, based on the two temperatures, to determine the content of carbon and oxygen in the liquid metal after rapid cooling and crystallization of the two samples.

1/1



UDC: 523.035.338.336

USSR

KLEYMAN, Ye. B. and OYRINGEL', I. M.

"Radiation of Plasmons by an Atom in a Magnetically Active Plasma"  
Moscow, Astronomicheskii Zhurnal, vol 50, No 4, 1973, pp 884-886

Abstract: The authors consider single-quantum transitions for an atom in a magnetically active plasma, with the transitions proceeding with the radiation of transverse and longitudinal plasmons. The gyrofrequency of the plasma electrons is assumed much smaller than the Langmuir frequency of the electrons. The analysis begins with an expression for the radiation probability per unit time for a transverse quantum of given frequency, wave vector, and polarization, in a specified solid angle. It is shown that under certain conditions, the longitudinal wave emissions predominate over the transverse radiation at frequencies close to the Langmuir value. The authors express their thanks to S. A. Kaplan for his participation in the discussions of the work.

1/1

UDC 669.046.5

USSR

ANSHELES, I. I., FEDOSEYEV, V. V., OYSK, G. N., YEGOROV, A. V., SOROKIN, S. P.,  
TYURIN, Ye. I., DANILIN, V. I., SELIVANOV, V. M., SIVKOV, S. S., ZYRYANOV,  
Yu. Ye., and BALDAYEV, B. Ya.

"Use of Electromagnetic Stirring in Vacuum Melting of Steel in a Ladle"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISIS), (Collection  
of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and  
Alloys), Izd-vo "Metallurgiya," No 61, 1970, pp 222-227

Translation of Abstract: Brief technical characteristics are given of the  
electromagnetic stirring of steel in a ladle. Data are presented on the  
effect of electromagnetic metal stirring on the uniform distribution of  
added deoxidizers and alloying elements, and also on the significant increase  
in the duration of vacuum smelting. A new production technology for the  
ShKh15 steel is presented in which complete deoxidation and alloying is con-  
ducted in the ladle at the end of vacuum smelting. The suggested method is  
theoretically substantiated. The results of the first experimental melts are  
presented. 3 tables.

1/1

- 39 -

USSR

UDC: 519.1

OYTSEK, V. I.

"Maximum Flow in a Network With Storage Points"

Moscow, Kombinator. analiz--sbornik (Combinatorial Analysis--collection of works), vyp. 2, 1972, pp 68-72 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V401 by V. Burkov)

Translation: The paper deals with the problem of determining the maximum overall flow in a network with storage points over a time  $(t_0, t_k)$ . In this regard the overall flow is understood to mean the sum of the output flows on the intervals  $(t_l, t_{l+1})$ ,  $l=0, 1, \dots, k-1$ . The flow on the interval is determined usually with regard to the fact that the difference between outgoing and incoming flow for each junction (with the exception of the initial and final junctions) must not exceed the free capacity of the junction, while the difference between the incoming and outgoing flow must not exceed the reserve of the junction. The flows on the different intervals are related through the change in reserve of the junctions (if on a given interval the incoming flow for a given junction is greater than the outgoing flow, then on the following interval the reserve of the junction increases, and vice versa).

1/2

USSR

OYTSEK, V. I., Kombinator. analiz, vyp. 2, 1972, pp 68-72

An auxiliary network without storage points is constructed in the same way as when finding the maximum dynamic flow. The Ford-Fulkerson algorithm is applied to the auxiliary network. The author also considers a generalized form of the problem relating to additional requirements of maximum filling of storage points in a given order of priority.

2/2

- 24 -